SUPPLEMENTARY MATERIAL

Parmotrema screminiae (Parmeliaceae), a novel lichen species from Brazil with potent antimicrobial activity

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Taxonomic discussion – Supplementary

Key to *Parmotrema* with norlobaridone

1a. Thallus without vegetative propagules or similar structures, upper surface distinctly maculate 2
1b. Thallus with isidia, soredia, lacinules or dactyls, upper surface maculate or not 4

2a (1). Medulla with norstictic acid ..... *Parmotrema spilotum* (Hale) Hale, 1974
2b. Medulla without norstictic acid 3

3a (2). Conidia sublageniform ..... *Parmotrema abessinicum* (Nyl. ex Kremp.) Hale, 1974
3b. Conidia filiform ..... *Parmotrema recipiendum* (Nyl.) Hale, 1974

4a (1). Thallus with dactyls ..... *Parmotrema dissimile* Fleig, 1999
4b. Thallus with isidia, soredia, or lacinules, without dactyls 5

5a (4). Thallus with lacinules, without isidia or soredia ..... *Parmotrema cristobaliae* (Ferraro & Elix) Blanco, Crespo, Divakar, Elix & Lumbsch, 2005
5b. Thallus with isidia or soredia 6

6a (5). Thallus primarily isidiate (can be isidiate-sorediate in *Parmotrema paulense*) 7
6b. Thallus sorediate 11

7a (6). Upper surface with reticular maculae, medulla with lichexanthone .....
..... *Parmotrema bonplandii* (Mata) Blanco, Crespo, Divakar, Elix & Lumbsch, 2005
7b. Upper surface with effigurate maculae or without maculae, medulla without lichexanthone
.....
..... 8

8a (7). Upper surface with effigurate maculae 9
8b. Upper surface without maculae 10

9a (8). Medulla with salazinic acid ..... *Parmotrema subtinctorium* (Zahlbr.) Hale, 1974
9b. Medulla without salazinic acid ..... *Parmotrema haitiense* (Hale) Hale, 1974

10a (8). Medulla with stictic acid, conidia sublageniform .....
..... *Parmotrema internexum* (Nyl.) Hale ex DePriest & B. Hale, 1998
10b. Medulla without stictic acid, conidia filiform .... *Parmotrema paulense* (Zahlbr.) Hale, 1974

11a (6). Lobes eciliate 12
11b. Lobes ciliate 13

12a (11). Soralia marginal, linear; lobes adnate.....
..... *Parmotrema applanatum* Marcelli & Ribeiro, 2002
12b. Soralia marginal or laminal, then usually capitate; lobes usually crowded in the center .....
..... ***Parmotrema screminiae*** Spielmann & Canêz

13a (11). Medulla with lichexanthone ..... *Parmotrema larense* López-Figueiras, 1979
13b. Medulla without lichexanthone 14

14a (13). Upper surface without maculae 14
14b. Upper surface distinctly maculate 16

15a (13). Medulla with gyrophoric acid ..... *Parmotrema indicum* Hale, 1977
15b. Medulla without gyrophoric acid ..... *Parmotrema yodae* (Kurokawa) Hale, 1977

16a (14). Medulla with gyrophoric acid ..... *Parmotrema balense* (Winnem) Hale, 1977
16b. Medulla without gyrophoric acid 17

17a (16). Medulla with salazinic acid ..... *Parmotrema reitzii* Hale, 1977
17b. Medulla without salazinic acid 18

18a (17). Conidia sublageniform ..... *Parmotrema hababianum* (Gyelnik) Hale, 1974
18b. Conidia filiform 19

19a (18). Undersurface pale brown, with dimorphic rhizines *Parmotrema conferendum* Hale, 1977
19b. Undersurface black, with monomorphic rhizines 20

20a (19). Cilia 0.2-1.5 mm. long; conidia 6.0-10.0µm long .....
..... *Parmotrema commensuratum* (Hale) Hale, 1974
20b. Cilia 1.0-3.0 mm. long; conidia 12-16 (-20.0) µm long .....
..... *Parmotrema subschimperi* (Hale) Hale (1974)

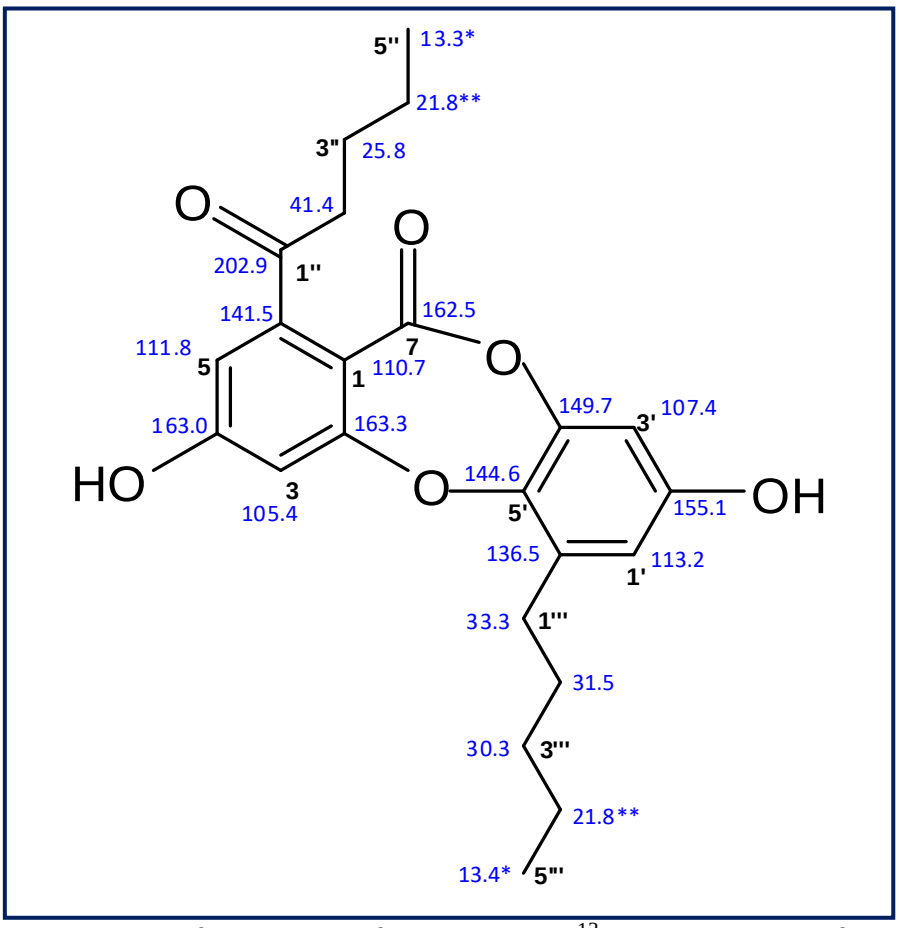

Figure 1S – Assignments of chemical shift signals in the ^{13}C NMR spectrum for the depsidone norlobaridone. * and ** signals may be interchanged.

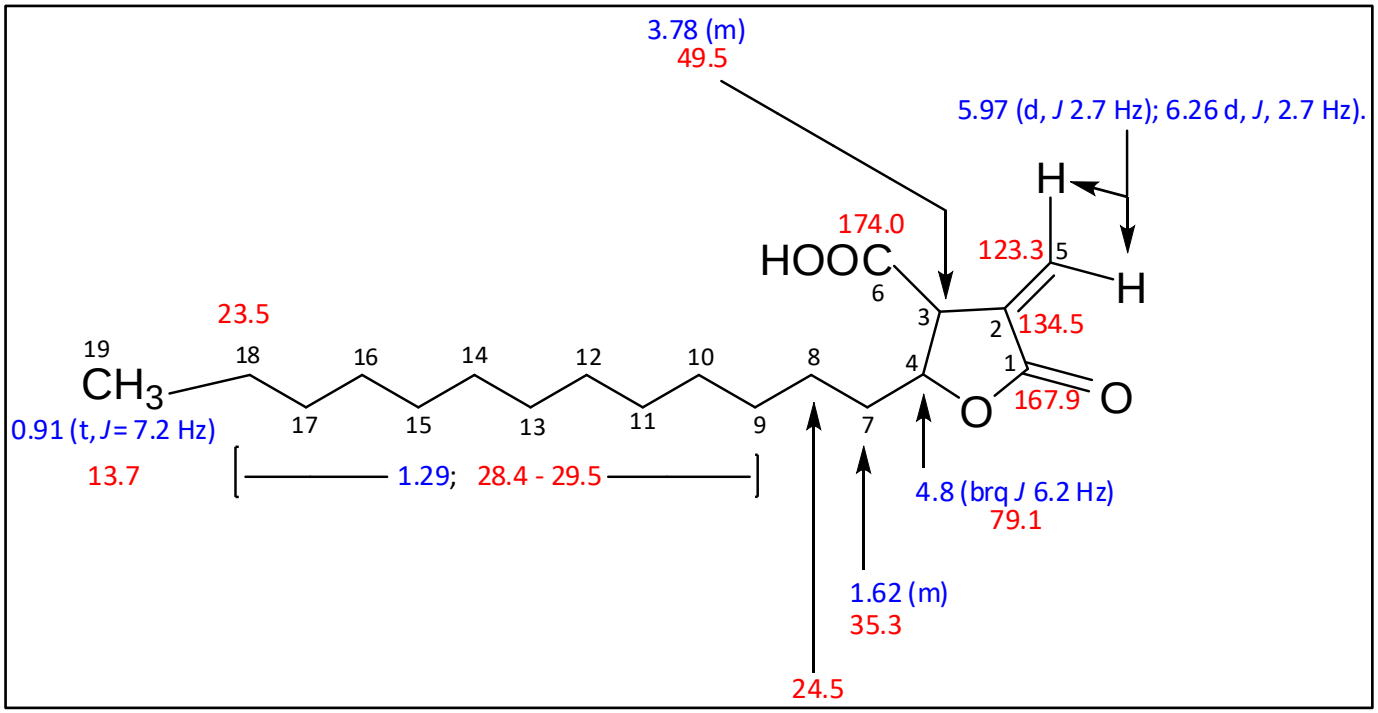

Figure 2S – Chemical shift assignments (^{1}H and ^{13}C), in ppm, for protolichesterinic acid. *^{1}H-NMR ; *^{13}C-NMR.

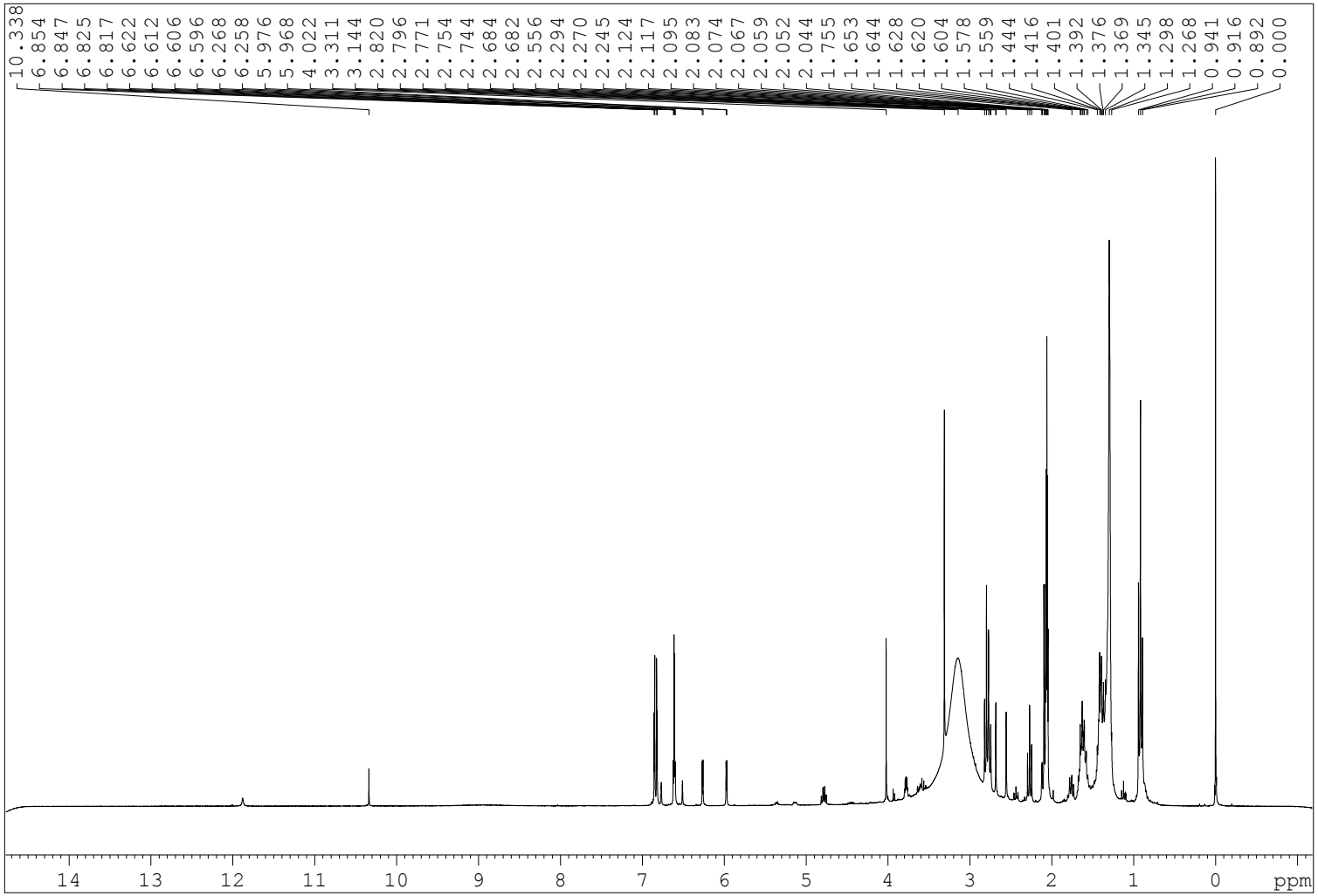

Figure 3S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract.

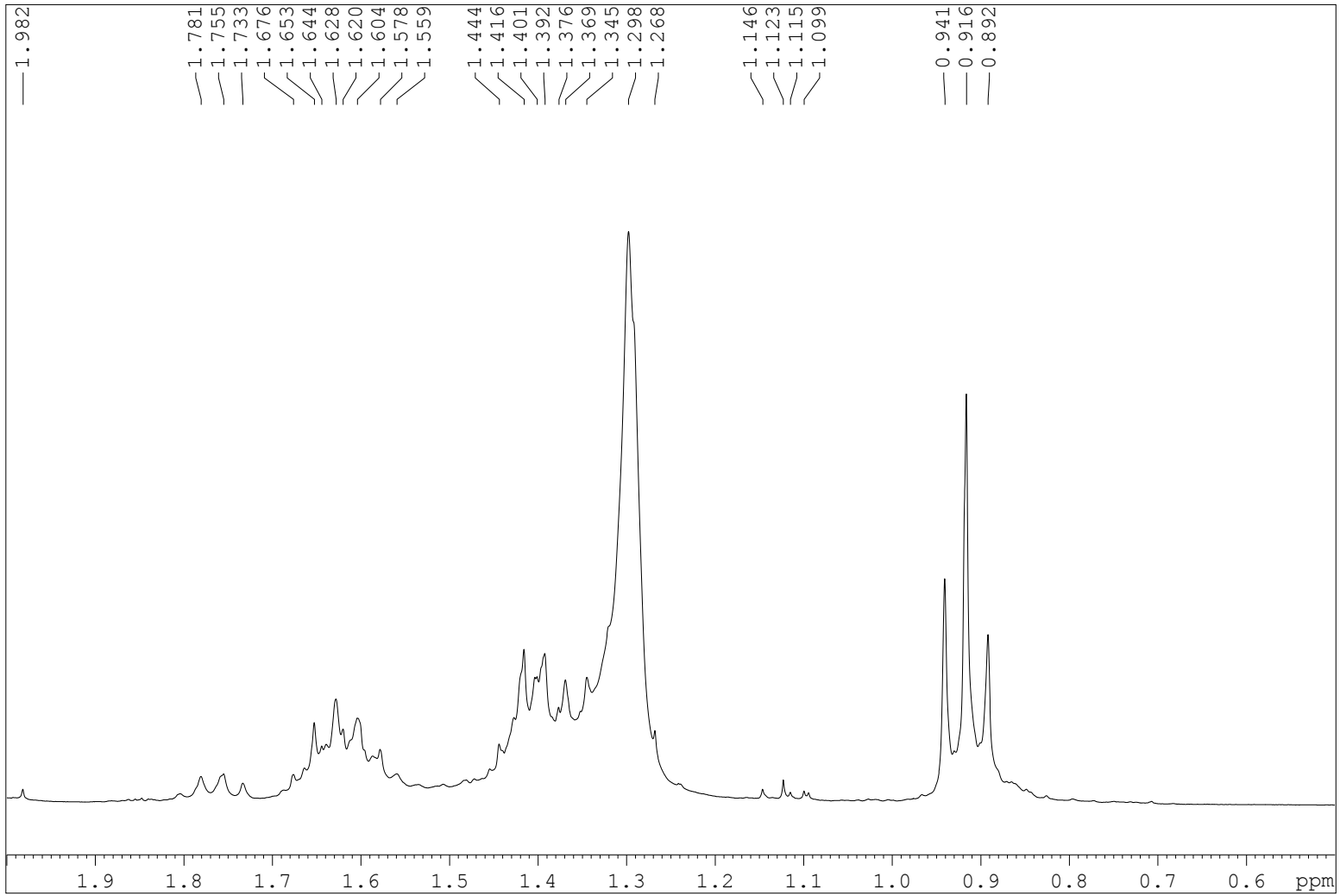

Figure 4S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 0.6-2.0 ppm region.

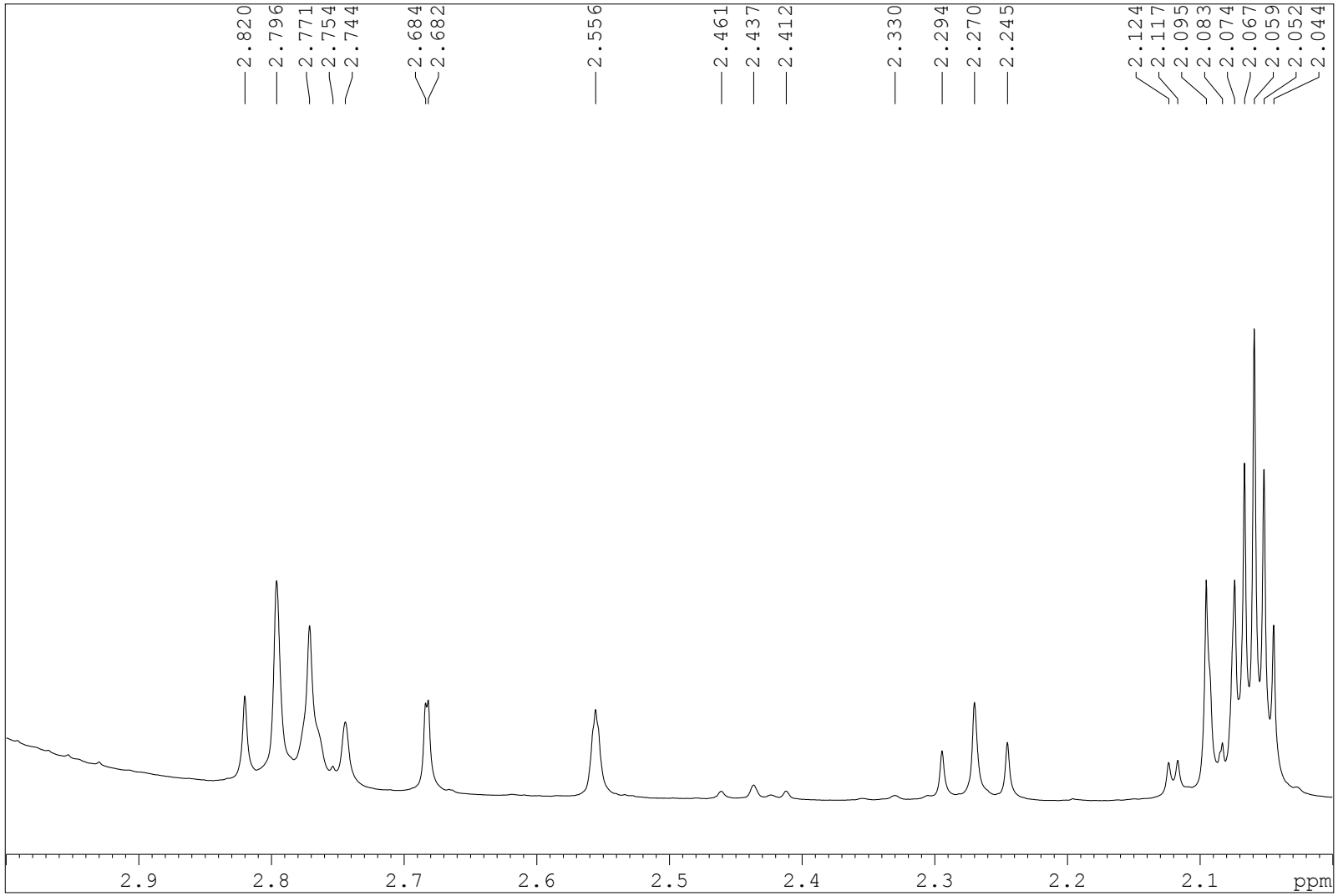

Figure 5S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 2.0-3.0 ppm region.

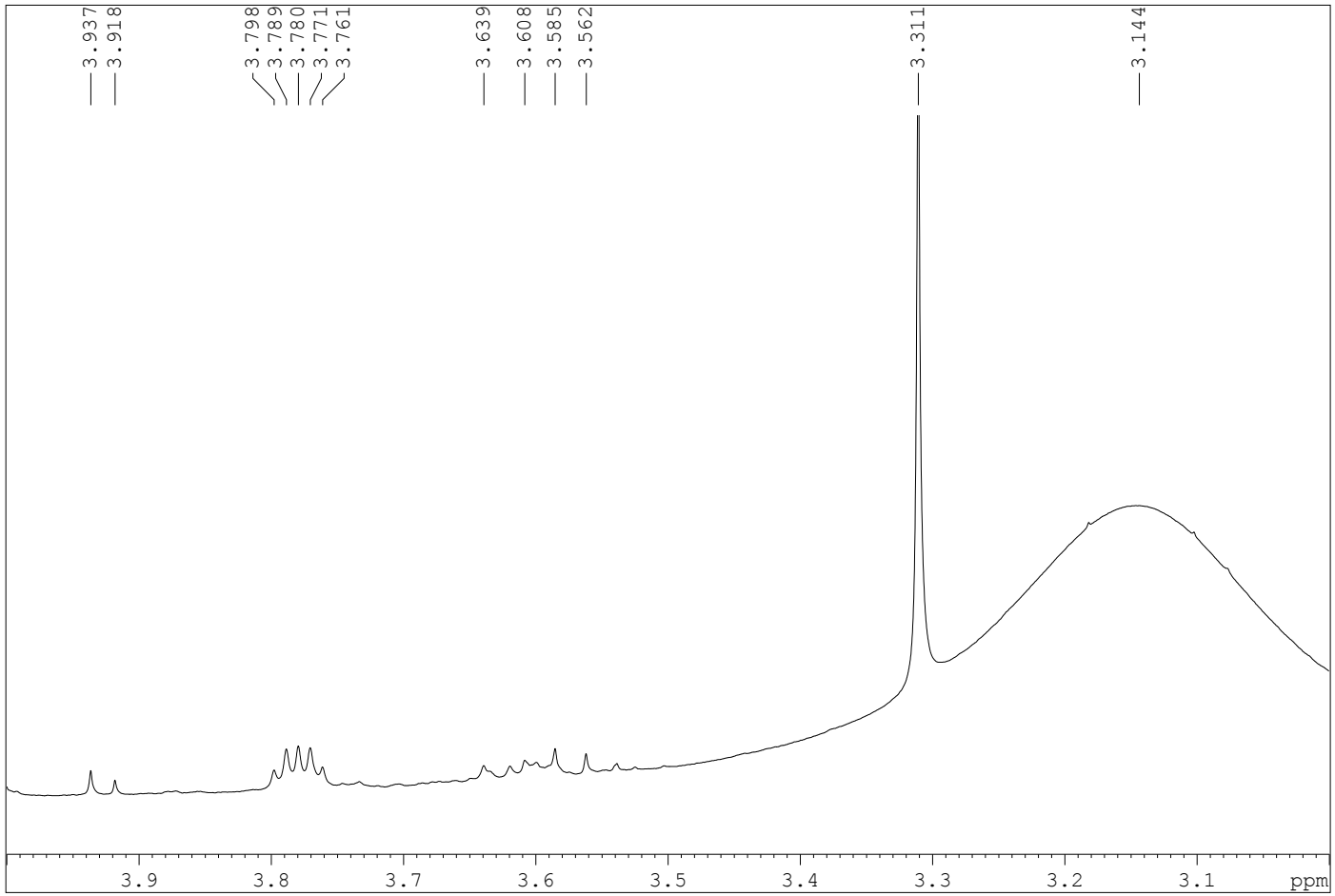

Figure 6S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 3.0-4.0 ppm region.

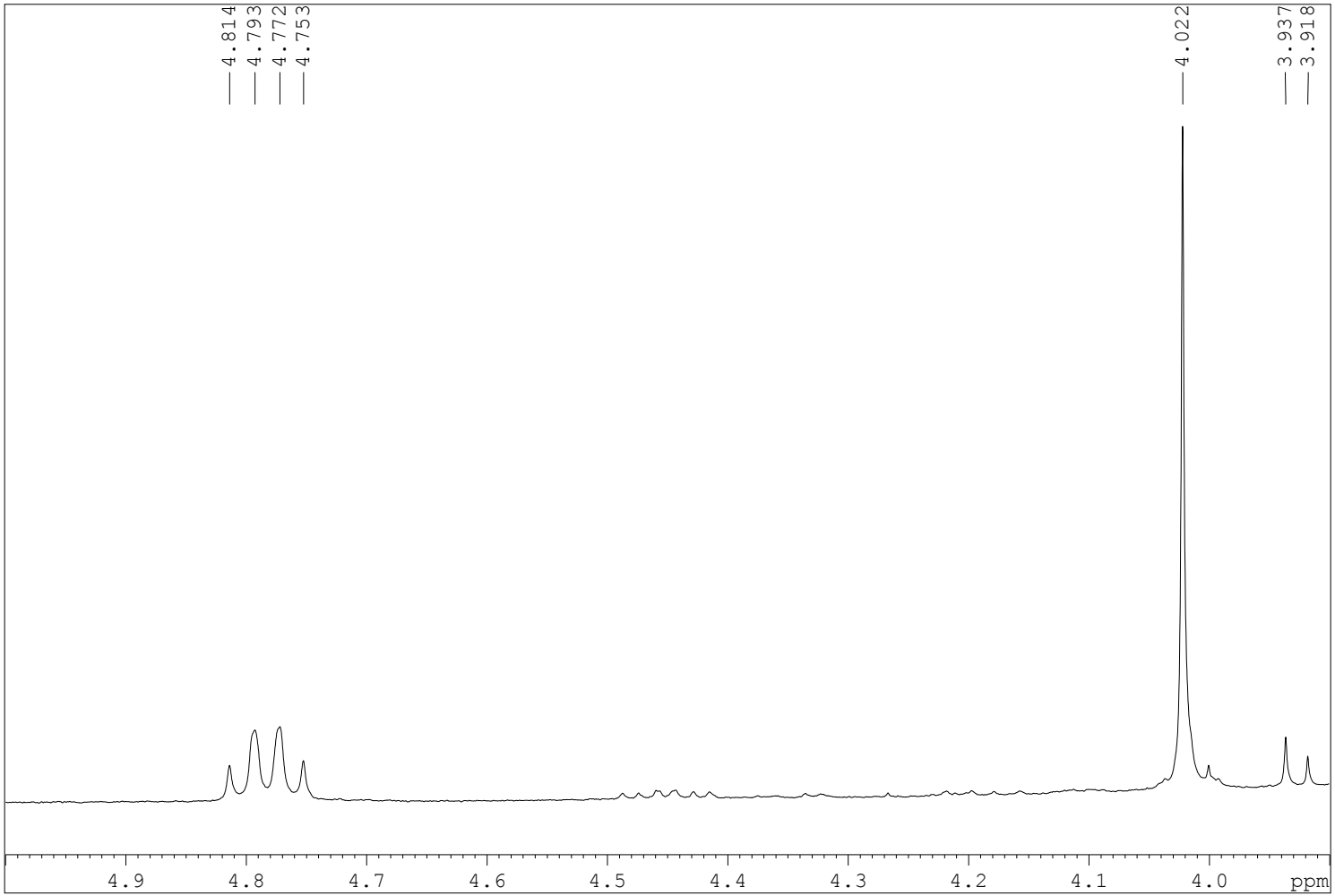

Figure 7S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 3.0-5.0 ppm region.

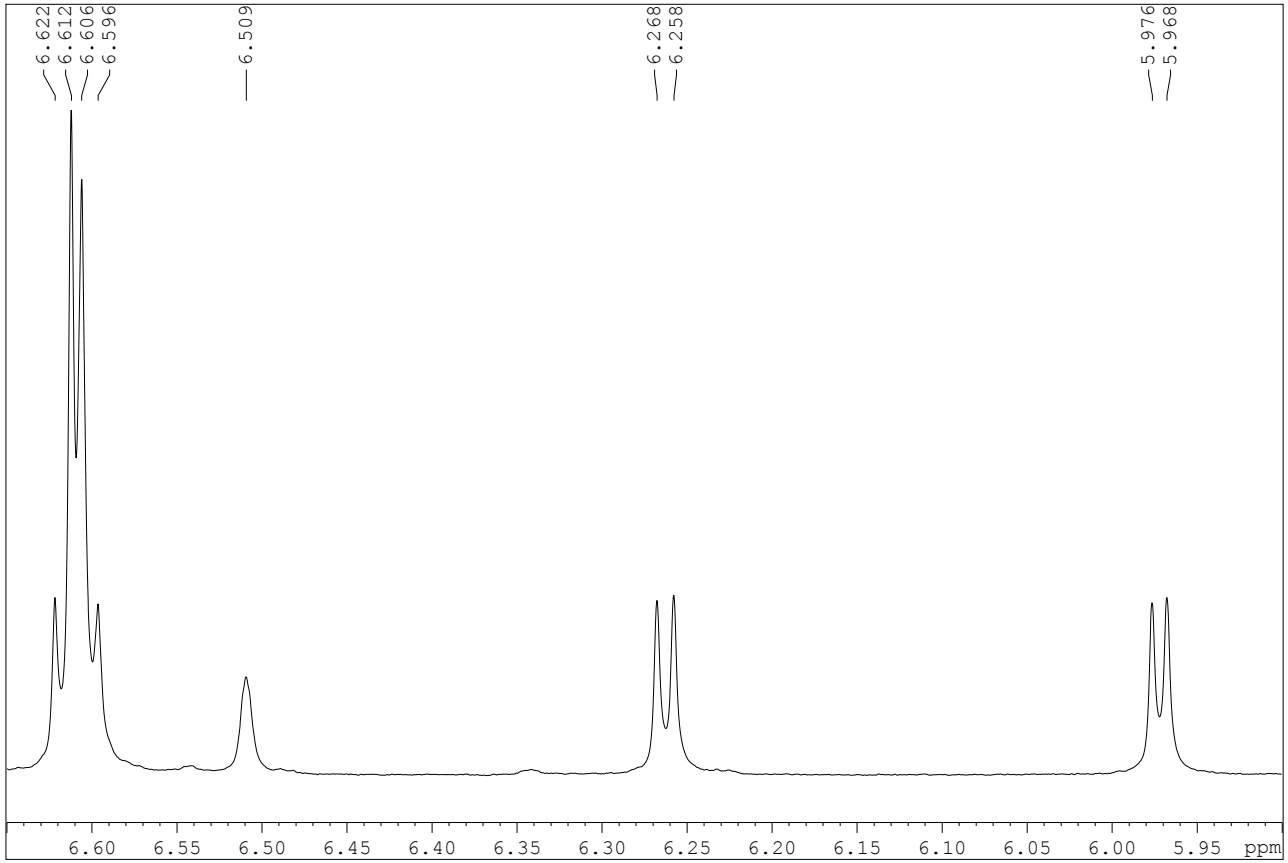

Figure 8S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 5.9-6.7 ppm region.

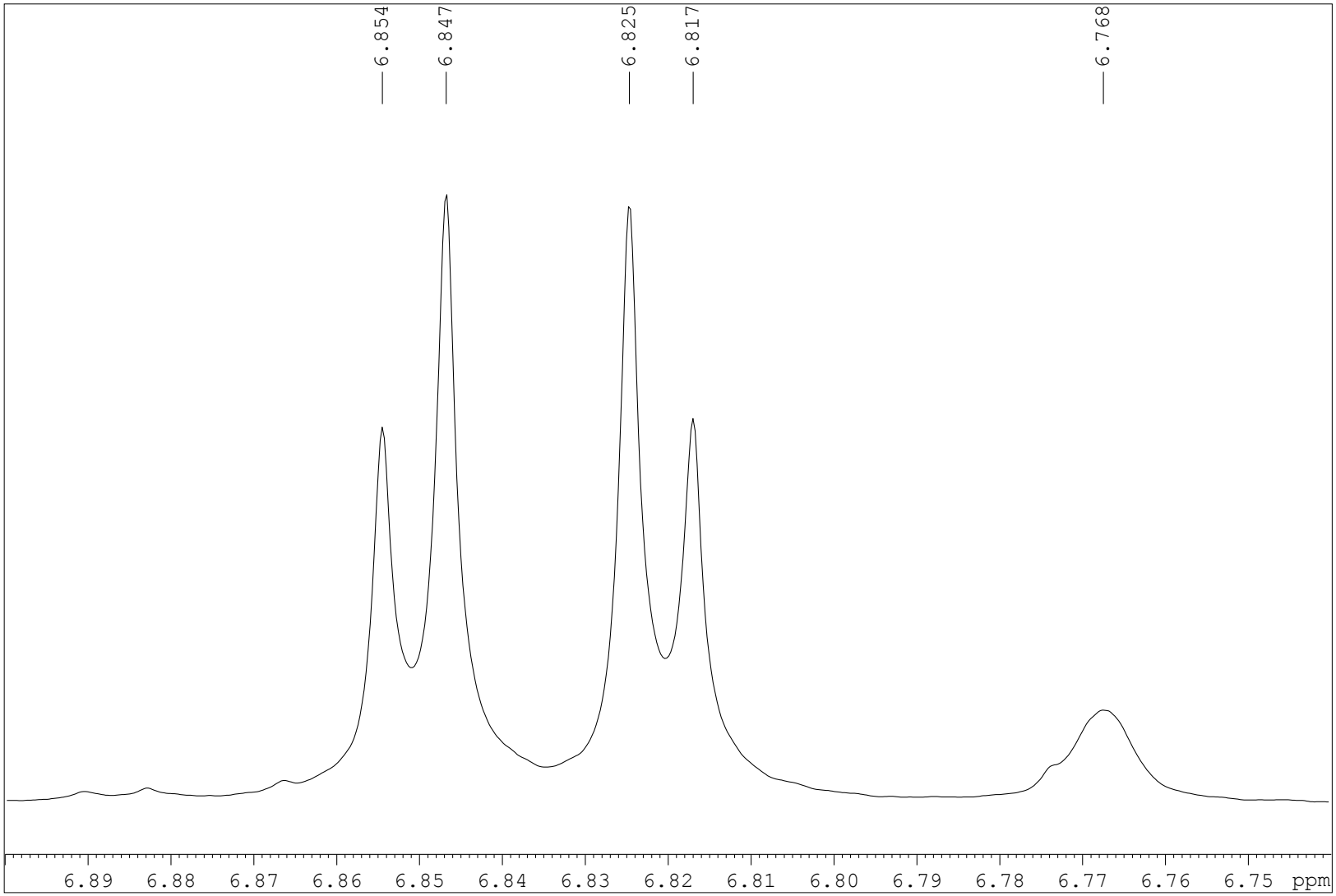

Figure 9S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 6.74-6.90 ppm region.

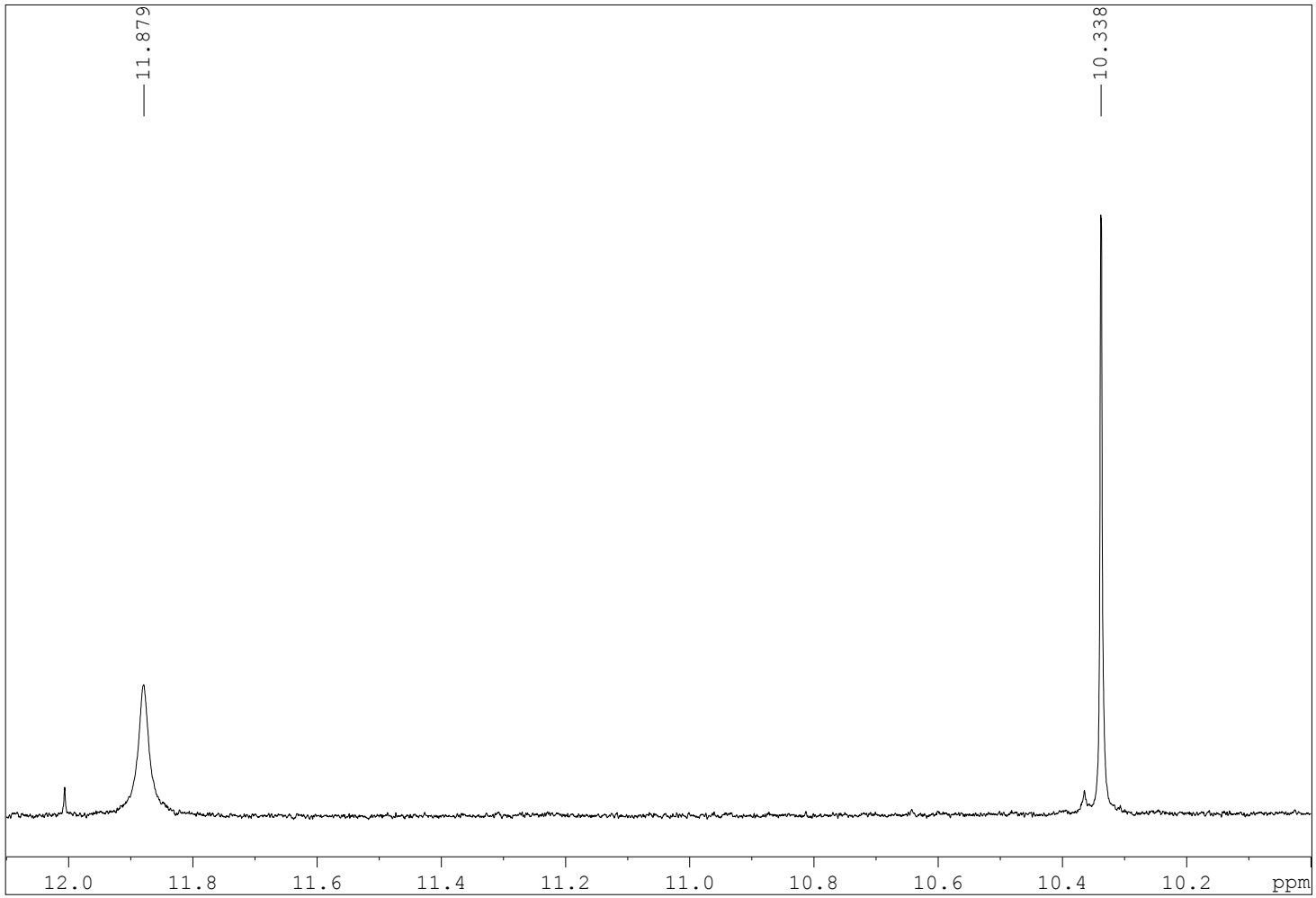

Figure 10S – ^{1}H-NMR (300 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 10.0-12.1 ppm region.

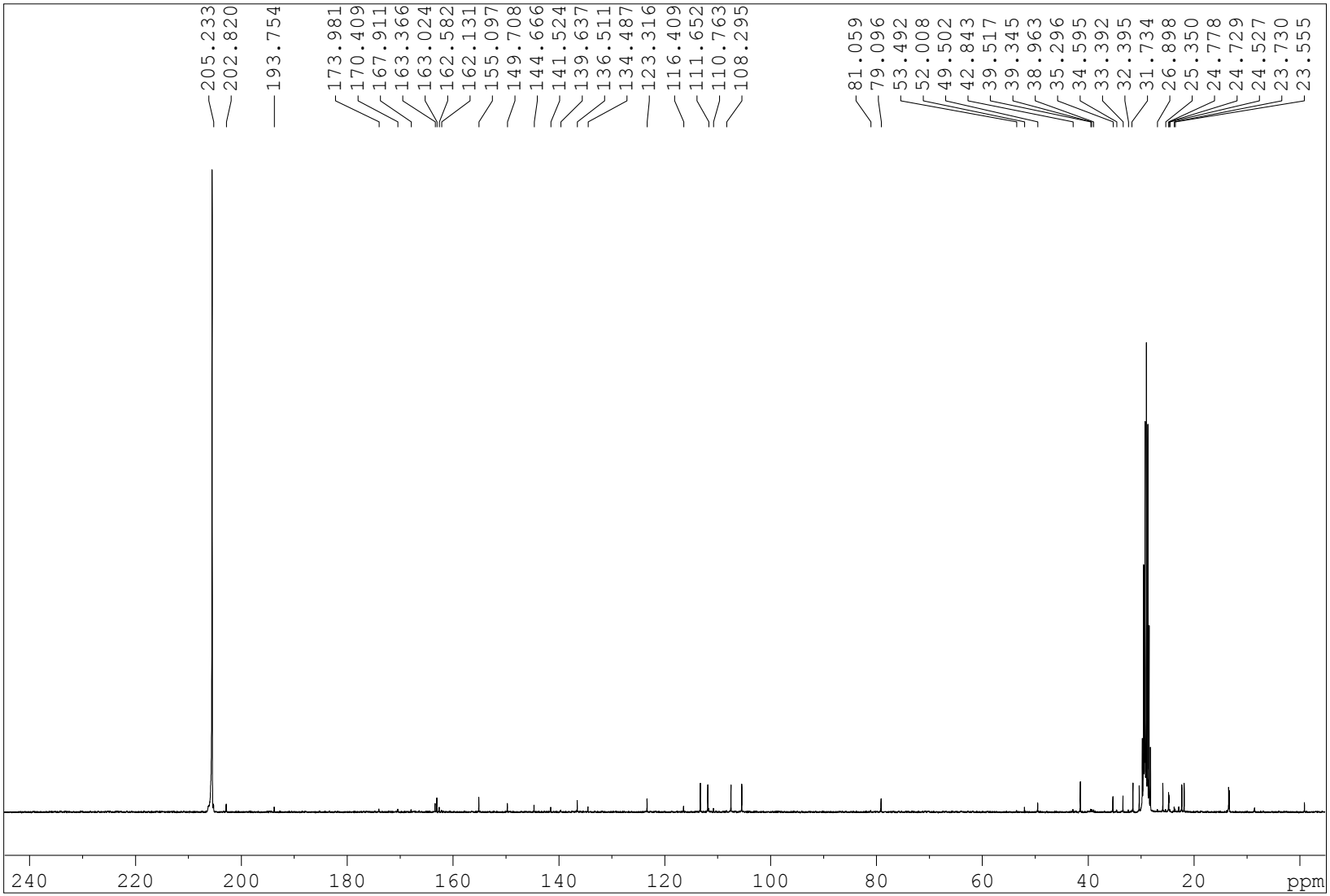

Figure 11S – ^{13}C-NMR (75 MHz, DMSO-d$_6$) spectrum of *Parmotrema screminiae* extract.

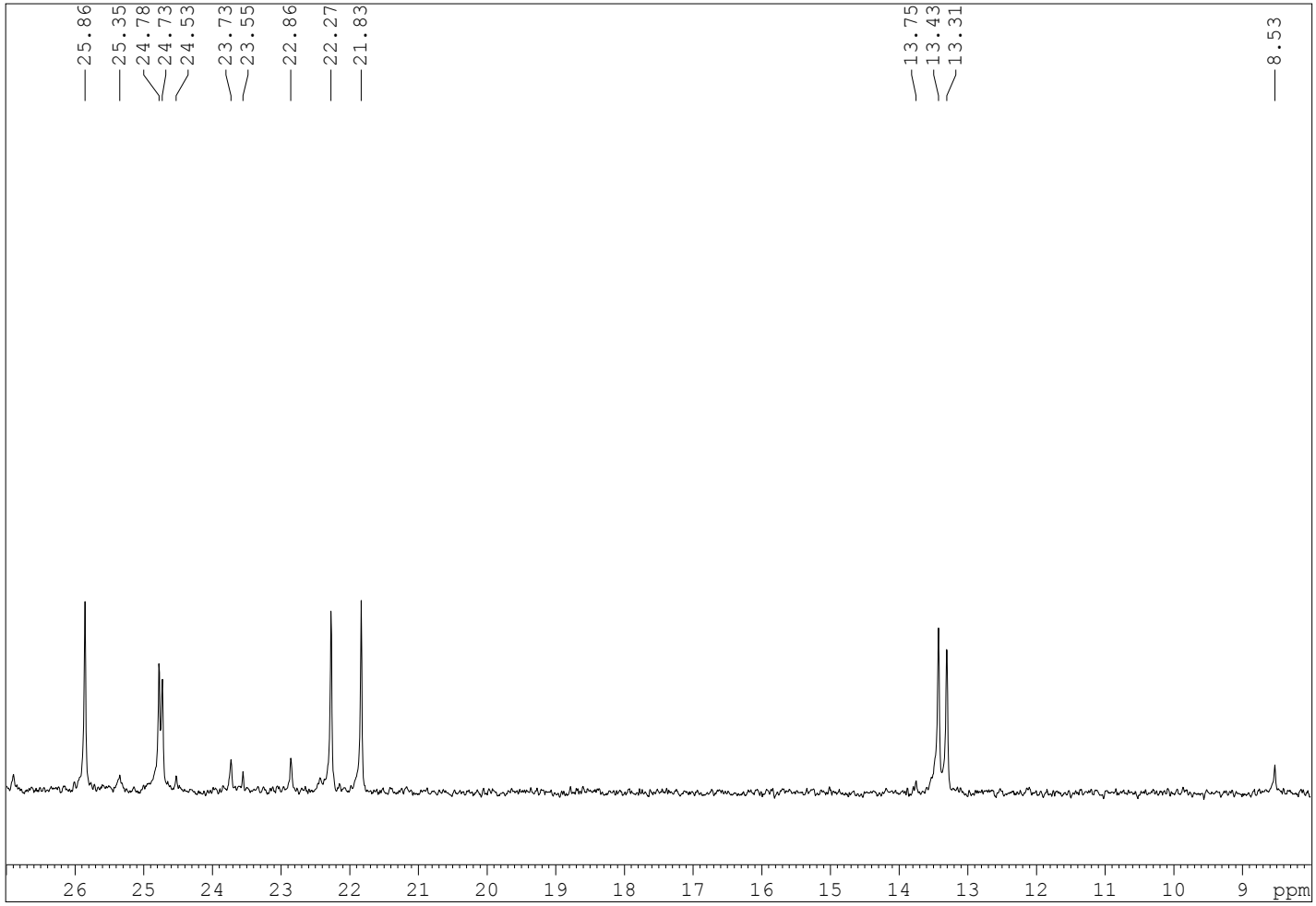

Figure 12S – ^{13}C-NMR (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 8.0-27.0 ppm region.

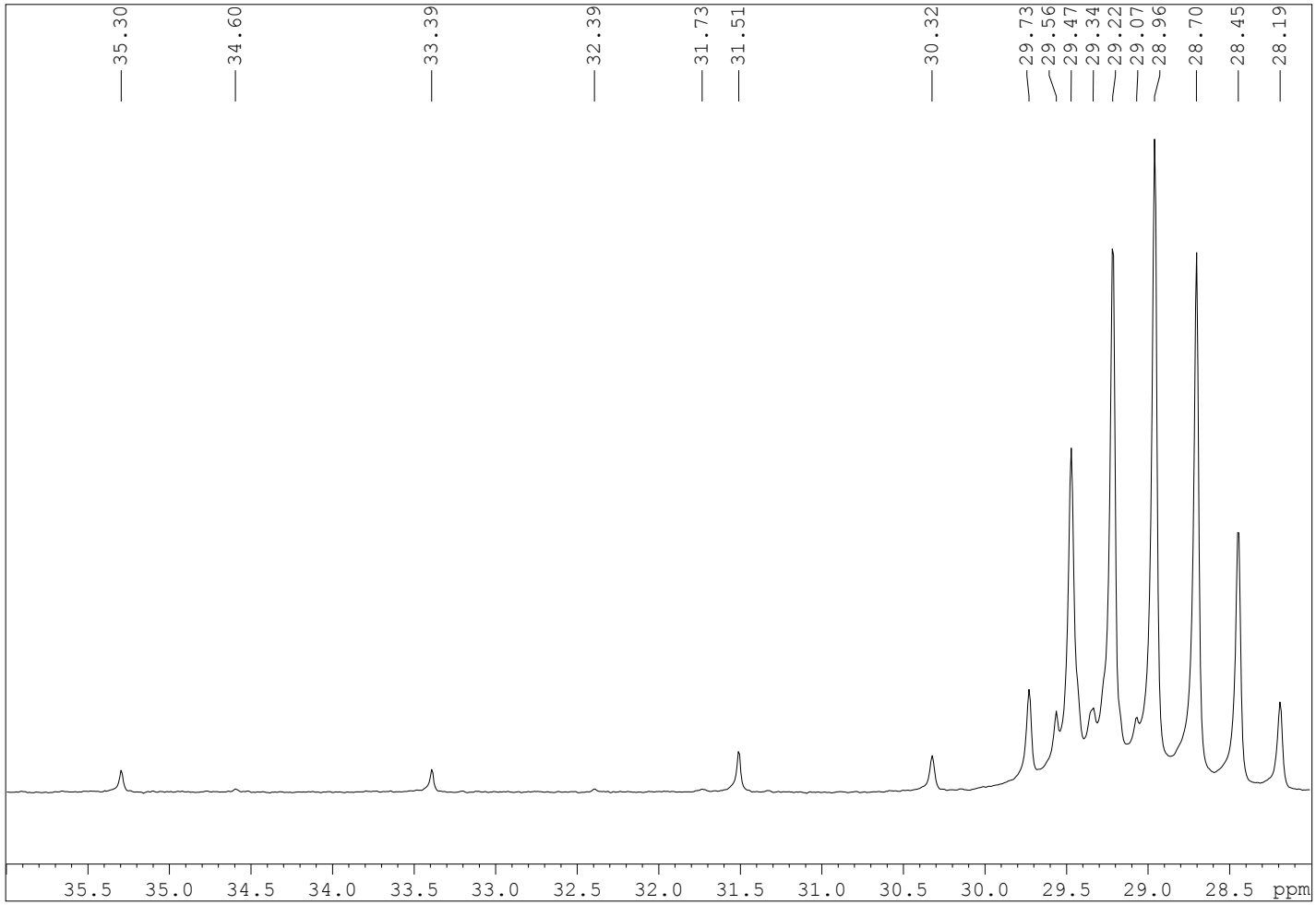

Figure 13S – ^{13}C-NMR (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 28.0-36.0 ppm region.

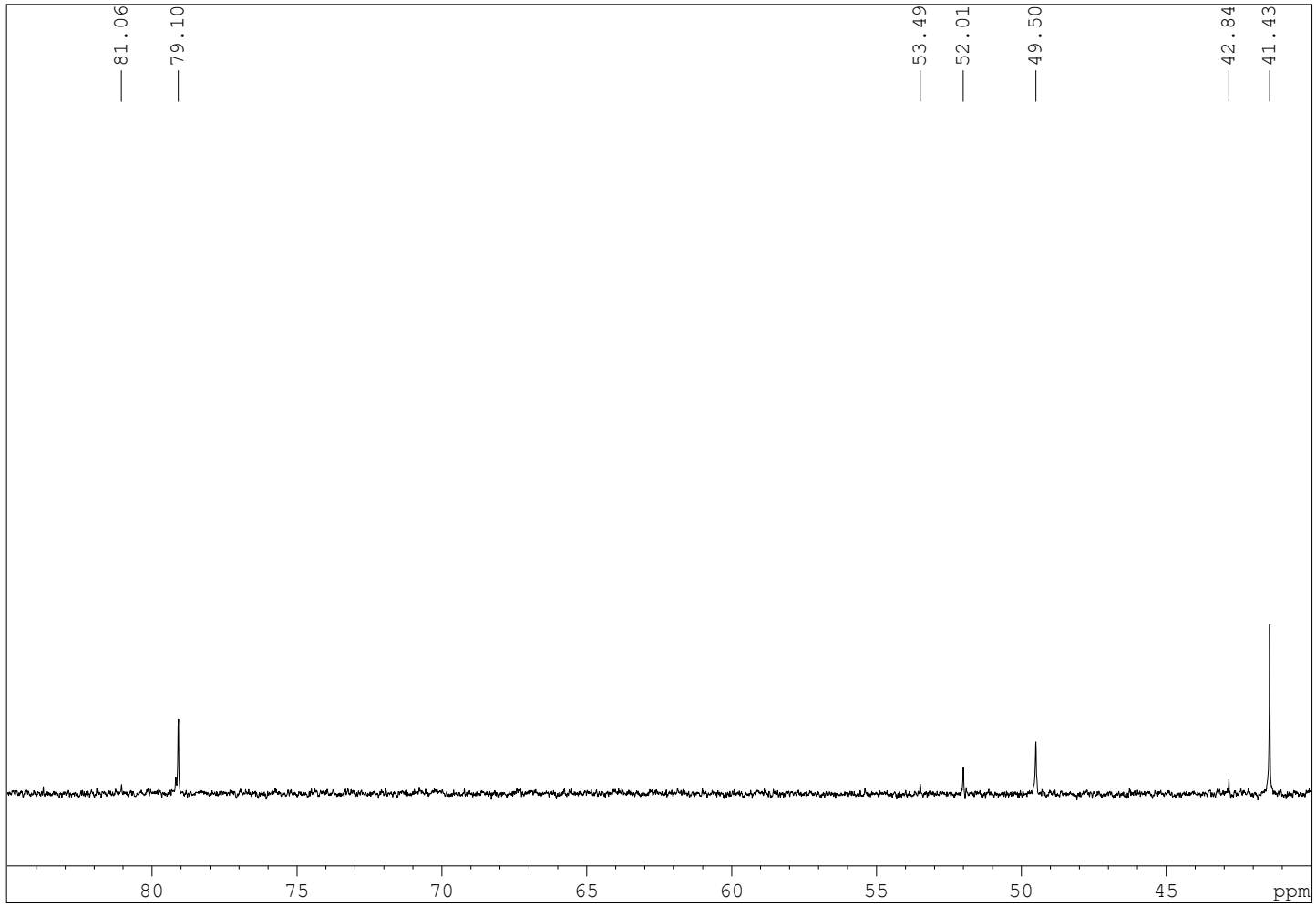

Figure 14S – ^{13}C-NMR (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 40.0-85.0 ppm region.

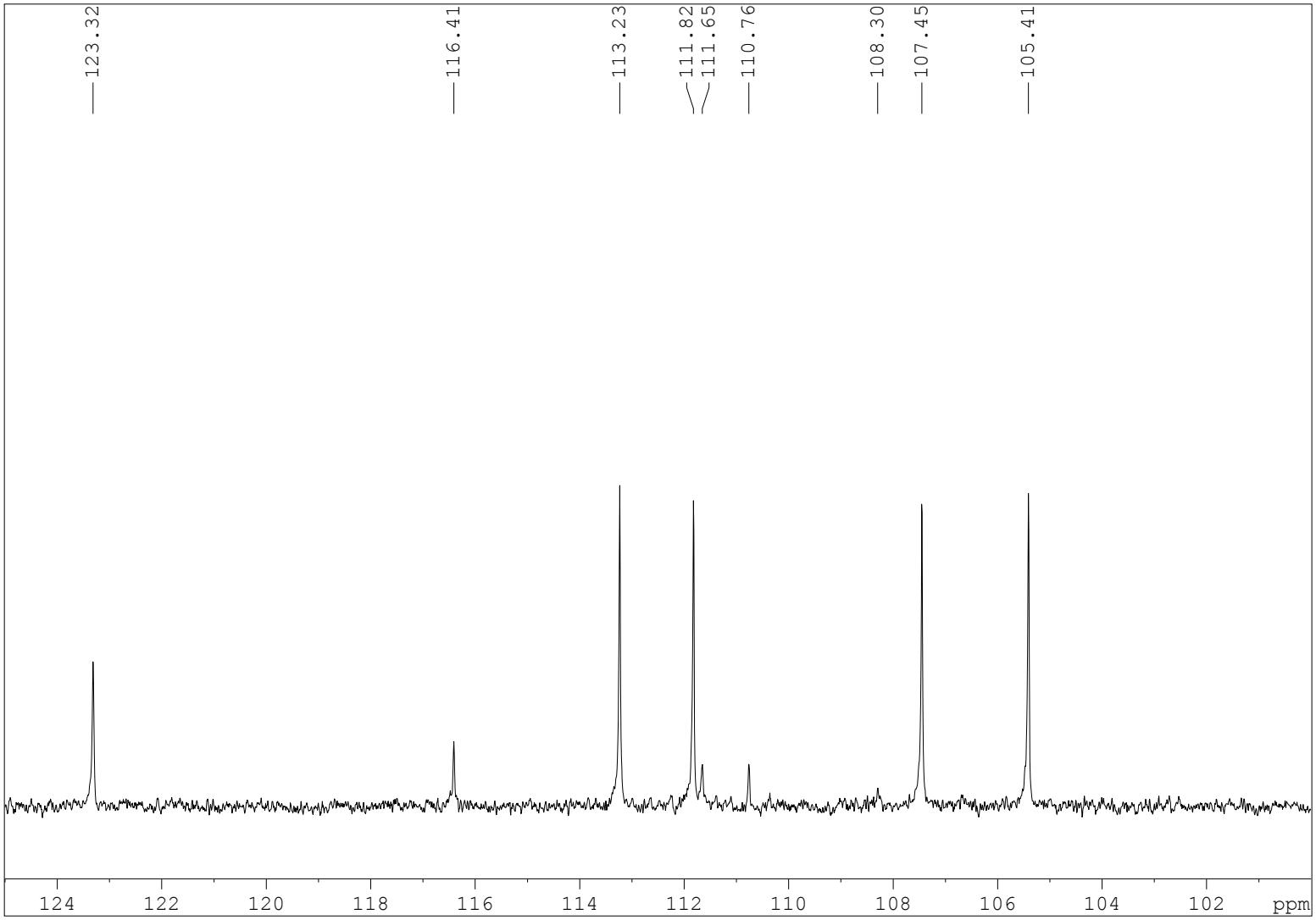

Figure 15S – ^{13}C-NMR (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 100.0-125.0 ppm region.

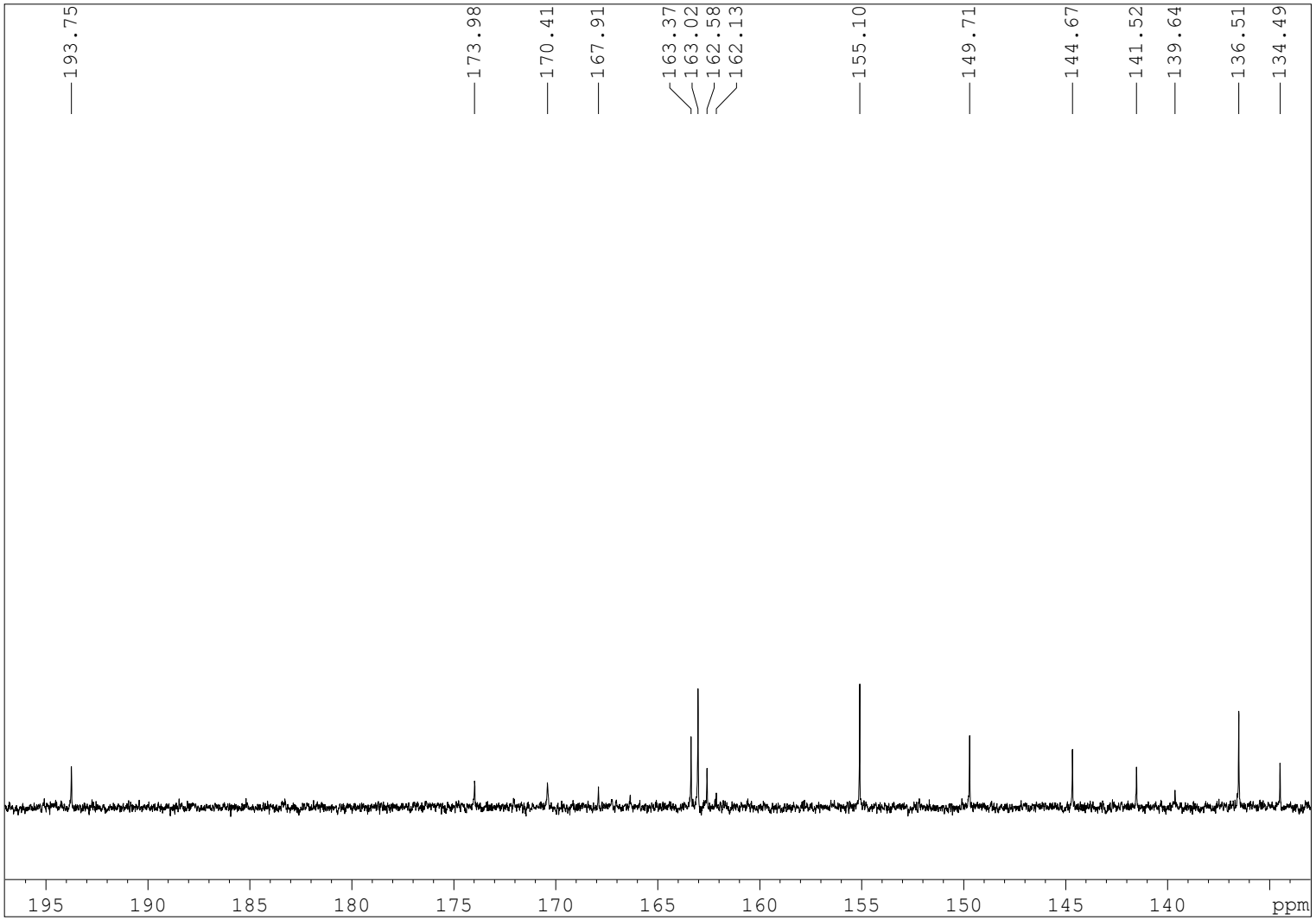

Figure 16S – ^{13}C-NMR (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 133.0-195.0 ppm region.

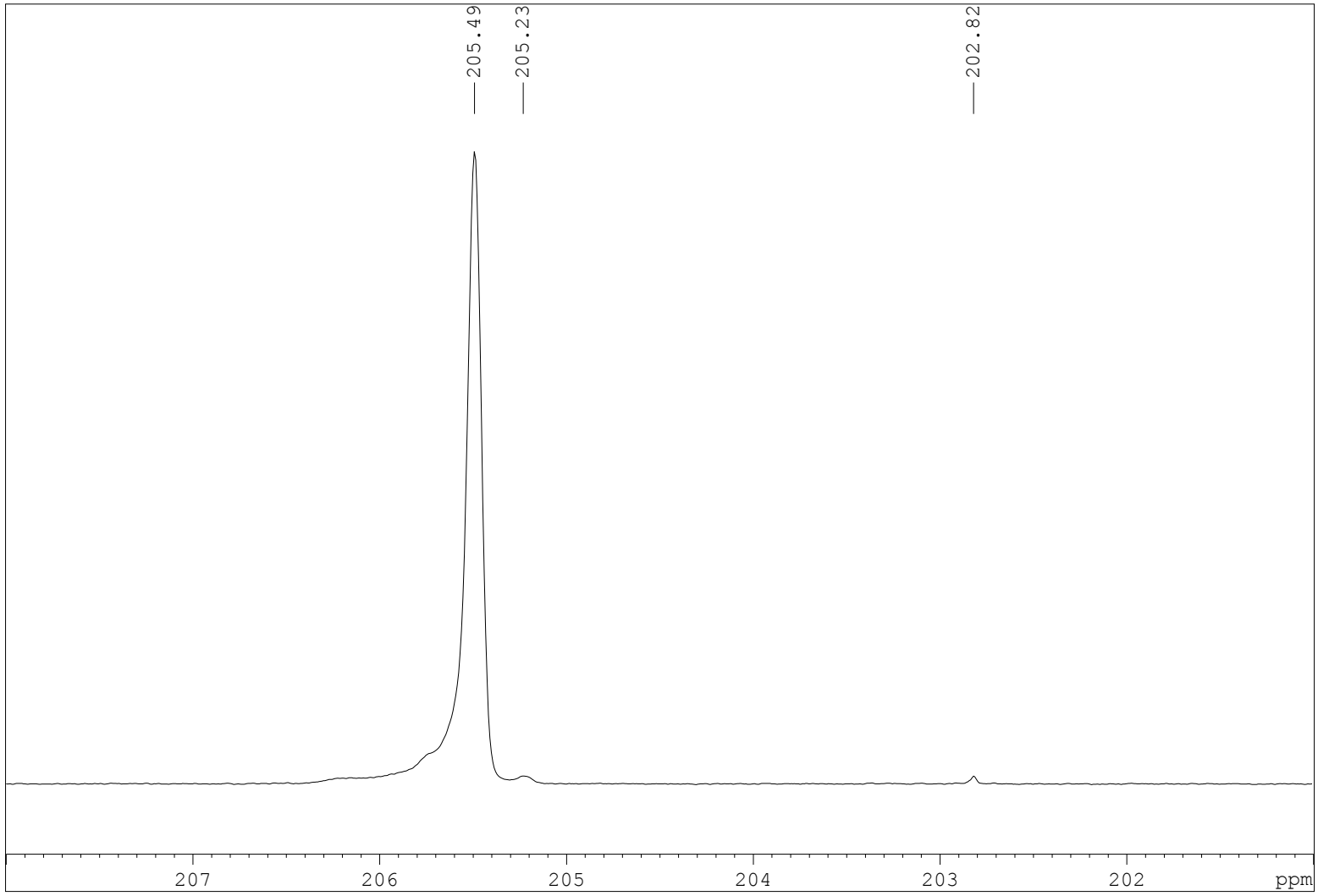

Figure 17S – ^{13}C-NMR (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 201.0-208.0 ppm region.

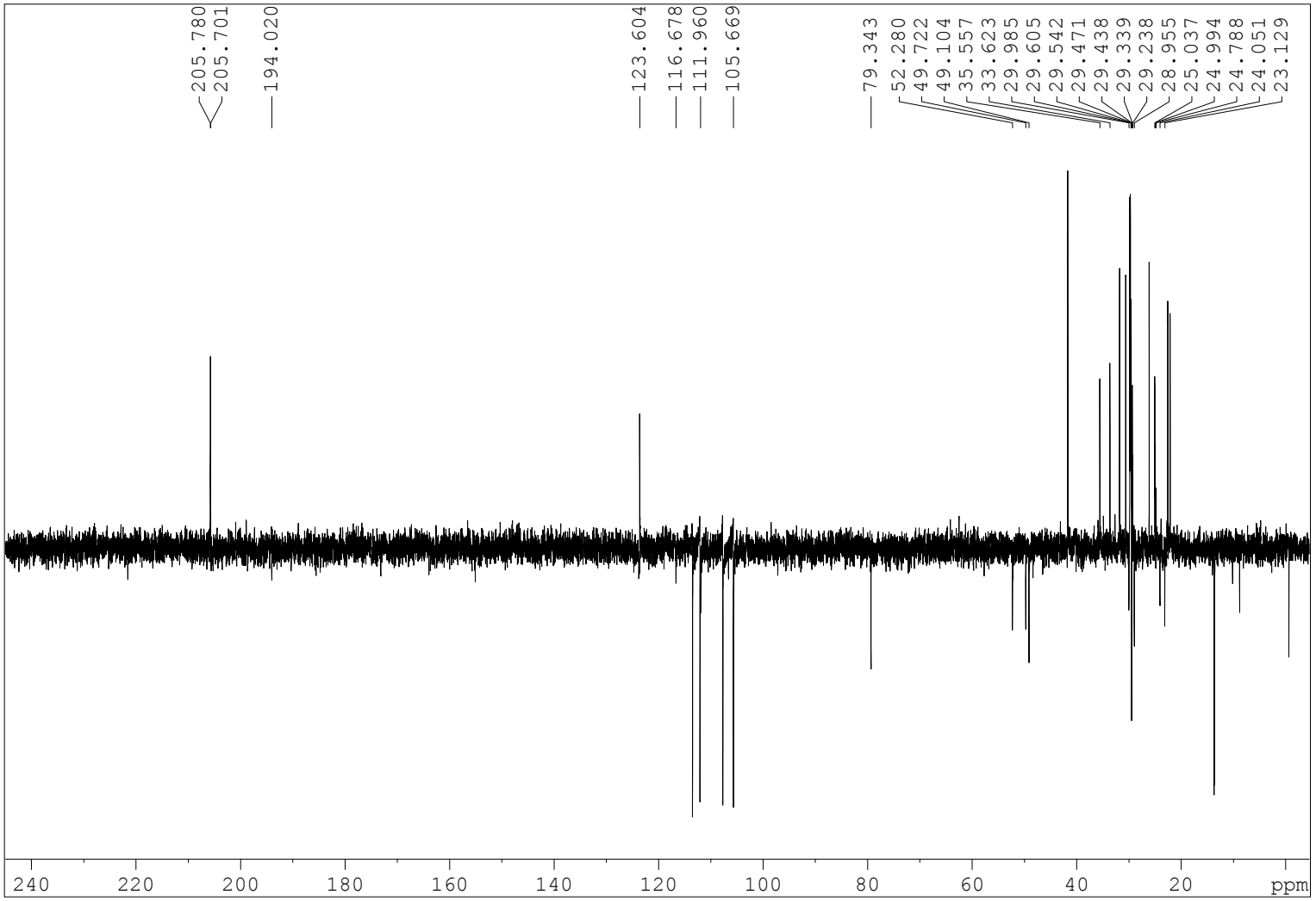

Figure 18S – DEPT-135 (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract.

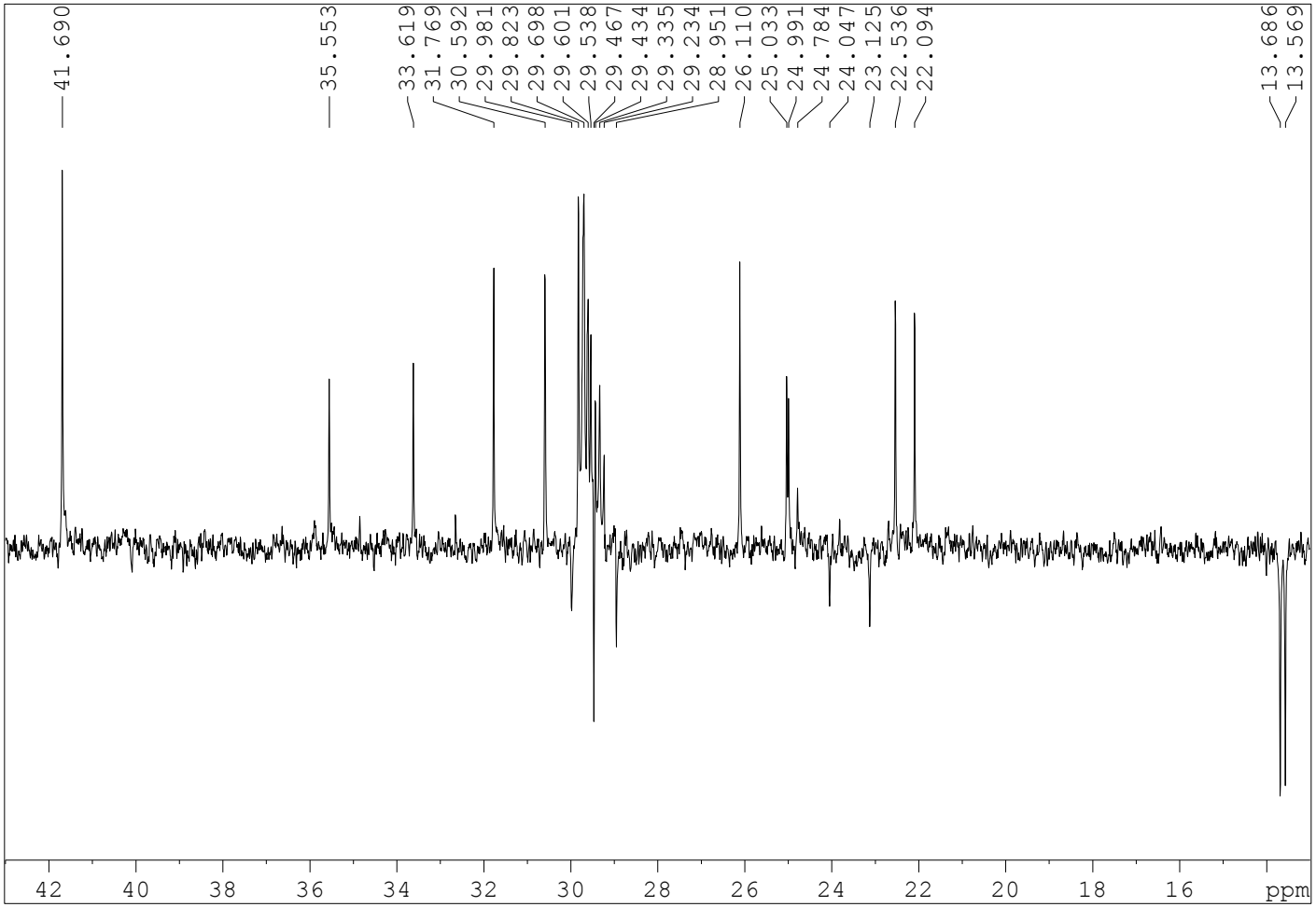

Figure 19S – DEPT-135 (75 MHz, DMSO-d_6) spectrum of *Parmotrema screminiae* extract. Expansion of the 13.5-42.0 ppm region.